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CAMEL-BASED DETERMINANTS OF THE ASSETS GROWTH OF INDONESIAN SHARIA BANKS

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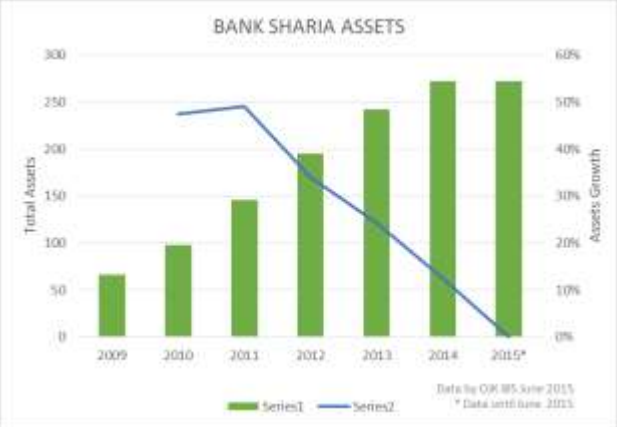
Abstract- Anecdote "five percent traps of sharia bank" arise because in the currently, sharia banking condition traps on 5% cake of Indonesian banking industry in several years. This condition worsens by the declining of sharia bank growth in 2015 period. CAMEL as a banking performance evaluation can be used to determine the assets growth relates factor. The research conducting by collecting secondary data of eleven sharia commercial bank in Indonesia from 2005- 2015 period. These variables processing in the multiregression unbalance panel model in order to find significant relation factor. the research finding found from eleven independents, there are three significant variables that have relationship toward bank assets growth.

Keywords : Bank Sharia, Assets Growth, CAMEL

Introduction

Indonesia is a country with the higher level of the Muslim population in the world and it expected to have high opportunity to become Islamic finance leader in the world, especially on Islamic Banking or we would call it Sharia Banking. With highest number of Muslims in the world, which is 205 million people or 88.1% of the total population (data per 2010 by BPS) and the opportunities, that sharia bank is also attracted to non- Muslim. They choose sharia bank because they were interested in the benefits like less divine incentives in cost and risk, sharia financing product that applied profit- loss sharing term so feels more suitable to the lender. Furthermore, the main principle of sharia is to avoid elements of *Riba* (interest rate/ predetermined return), *Gharar* (uncertainty factor), *Maysir* (Gambling) and *Haram* (investment in Muslims activities consider as sinful and not suitable with Islamic principle) feels more ethical and friendly for the customer.

From the bank inside, several researches about sharia banking efficiency found that, sharia banking is more efficient in some ways compare to conventional bank. The evidence of sharia bank has several competitive advantages than a commercial bank to be expected have excellent growth of sharia banking in Indonesia.In 2013 to 2014, the growth of sharia bank in declining period. Nevertheless, the main problem of sharia bank in Indonesia is the small of market share, which is 4.83% compare to conventional banking 95.17%. failed to reach 2011 target of 5% and still remained below 5% until now prompting a public anecdote describing "5% traps of sharia banking" because of years trapped in the around number 5% market share.



Currently, growth in sharia banking assets has recently been slower. According to Financial Services Authorities Islamic Banking Statistics, per June 30, 2015, the growth of assets is slows three continued, 2012 to 2015 to almost minus. This falling condition obstructs the target achievement for sharia banking to out from 5% traps condition. According to that issue, CAMEL Ratio Analysis is a useful tool to examine the safety and soundness of banks, and help to mitigate the potential risks, which may lead to bank failures (Sandhya, 2014). CAMEL Ratio is to examine overall internal bank condition, bank's controlling and supervise helps to understand the adopted new regulation or law and determine any bank's financial problem at an early stage (Dincer, et al, 2011). The evidence that CAMEL is a useful tool to examine bank safety and soundness and detecting bank problems, CAMEL might be can use as the bank consideration on build bank strategy to increasing the bank assets growth.Thus, this research tries to evaluate the significant level of CAMEL criteria toward sharia commercial bank asset growth and find the significant level of the bank asset growth. The data collected from sharia commercial bank with minimum five years of operation with research period from 2005- 2015.

Literature review

Sharia Commercial Bank

The main characteristic of sharia bank is profit- sharing application in their operational system to replace bank interest because it is prohibited in Islam. The development of sharia bank in the world also influences in Indonesia. Bank Muamalat Indonesia, as the result of MUI banking team work was establish and officially operated in Mei 1, 1992. Bank Syariah Mandiri was the first state- owned bank that applies share base principle establish in 1999, which is now, the market leader of sharia bank in Indonesia with 33% market share.

Sharia economic including sharia banking principle are to provide financial institution that avoid this element;

1. The practice of bank Interest (identic to *Riba*)
2. Gambling (*Maysir*)
3. Uncertainty transaction/ not transparent (*Gharar*)
4. Inappropriate transaction base on Islamic principle (*Haram*)

Business Activities

Based on their business activities, sharia bank divided to sharia commercial bank, sharia business unit and sharia rural bank. Sharia commercial bank is bank that applied sharia principle that serving financial service like collecting money in savings and deposit, distributing financing to generate profit, and as mandatory of UU No. 21 Tahun 2008, bank sharia also doing social service like managing grant and charity. Sharia business unit has same function as sharia commercial bank but SBU is working unit as a part of commercial banking that serving sharia product. The last is sharia rural bank doing same

business activities but they cannot serving payment service. In their business activities, the principle of Sharia bank guidelines by Holy Qur'an and Al Hadiths, in Indonesia, Financial Institution with profit-loss sharing term also regulated by Fatwa National Sharia Board Indonesia Ulema Council (DSN MUI) and Sharia Banking Act, currently regulated in Act No. 21 of 2008 about Sharia Banking.

Bank Assets Growth

The sharia banking assets growth condition for 2011 until June 2015 was in not good condition. The target market size of sharia banking can't be achieve for years and then, anecdote of five percent traps of Islamic banking appear in early 2015 and the declining of bank assets growth still continue until 2015. This condition was unexpected since the potential of Indonesia market and the much benefit that sharia bank can serve. Kahf (2004) argue in assets is strongly indicative of bank's ability grow and succeed. Moreover, supported in assets indicates the bank's ability generate earning to produce more return beside raise the amount of money the bank can invest. It means that the banks can improve their level of investment quality. Asset Quality commonly used as a risk indicator for financial institutions, which also determines the reliability of capital ratios. (Kwan and Eisenbeis, 1997).

The research of bank assets also conducted by Hidayah (2008) using total assets as dependent variable find that the significant influence of total asset was bank third party fund and Bank Indonesia certificates rates. Study by Indriani (2006) also using total assets as dependent variable discover that micro factor that has significant influence to bank asset was return on assets and number of bank office, the macro factor that has significant influence is inflation rate. And the third study from Mukhlisin (2010), determine the bank sharia assets growth using internal and external factor find that inflation and interest rate has significant negative affect of sharia bank asset growth.

Bank Performance: CAMEL Criteria

To supervisory a bank safety and soundness, CAMEL Rating is a useful tool and can help the bank to mitigate the potential bank failure risk. (Sandhya, 2014). CAMEL rating system first introduced by U.S supervisory authorities in 1980 as a banking rating supervision. CAMEL rating system examines the bank by five bases critical dimension related with bank operation and performance to examine the banking financial performance, the operating soundness, financial condition, and regulatory compliance of banking. CAMEL criteria have been use by Bank Indonesia to examine bank safe and soundness event there is improvement in every section but CAMEL criteria still using in a part of their examination.

Brief explanation of each ratio dimension:

Capital Adequacy

Strong capital adequacy in a bank plays important roles since it creates bank confidence to face any risk and problems. CAR is the ratio of bank's capacity to cover its credit risk, market risk, and operational risk. While fixed assets to capital or fixed assets to net worth ratio measures the contribution of shareholder in the fixed assets of the bank as reserve.

Assets Quality

Assets is in the left side of balance sheets shows the various sources of equity and debt are use. It is also contain loans and deposit that management should concern most to generate more earnings. Assets quality can be measure by non-performing financing and allowance for earning assets losses to earning assets since it indicates bank's reserve to the risk of losses by managing their assets quality. This dimension indicates how well management can handle bank assets to cover the losses of a non-performing loan. The maximum rate of NPF in Indonesia is 5%.

Management Quality

Management quality measures the performance of the board and the management to create strategy and handle any risk on the bank. It can be qualitative measure or quantitative measure, which can be

by look at the result of management strategies. This dimension is important because it is substantial to bank's success and management is the examiner of bank asset quality. By quantitative, management quality can be measure by Return on assets and earning before operating expense to total assets ratio because this is the board and management responsibility and countable result of their strategies and effort.

Earning Ability

Earning ability shows the bank profitability. It can be identify by return on equity, net operating income, and operating expenses to operating income because that's ratio measure the banks earning profit and loss sharing. ROE indicates how well management manage shareholder money to generate profit, the higher ROE indicates that management can optimize the equity used (good performance is more than 15%). NIM indicates how well bank manage their earning assets to create return income (good performance is more than 4.5%). Operating expenses to operating income indicates how worth the bank expenses to generate the money.

Liquidity

Liability asset liquidity indicates the management capability to fulfilling its respective obligations. Enough liquidity in bank is important because if the bank cannot serve enough liquidity to the customer, it can lead to bankrupt. However, if too much liquid assets in the bank, it indicate low bank capability to manage their assets to generate earning. Financing to deposit ratio is use to see the bank liquidity to make a decision due to its result and to shows a bank ability to cover withdrawals made by customers. Total financing to total assets is use to see the portion of bank financing in the bank's total asset. The main function of a bank is as intermediaries of the fund from depositors to lender and make money by the margin from lending.

Research Variable Formulation

Based on the previous research, we expect that this variable has significant relation and can be formulated bellow;

Dependent Variable (Y)

Dependent variable in this research is Assets growth from 2005- 2015.

$$Assets\ Growth = \frac{Total\ Asset_n - Total\ Asset_{n-1}}{Total\ Asset_n}\ x\ 100\%$$

Independent variable (X)

Independent Variables are variable that has relation and explain the dependent variable. It is manipulate to determine the dependent variable values. Independent variables in this research are CAMEL Ratio criteria. Based on Bank Indonesia Regulation Number 6/10/PBI/2004 about Conventional Bank Soundness Supervisory, the formula to calculate the CAMEL Ratio are:

Dimension	Ratio	Symbol
Capital Adequacy	Capital Adequacy Ratio (PBI 6/10/PBI/2004)	CAR
	Fixed Assets to Capital (Nanda, Desiana, 2014)	FAC
Assets Quality	Allowance for Earning Assets Losses to Earning Assets (PBI 9/1/PBI/2007)	ALEA
	Non- Performing Financing (PBI 6/10/PBI/2004)	NPF

Management Capability	Return on Asset (Nurazi, Ridwan and Evans, Michael, 2005)	ROA
	Earnings Before Operating Expense to Total Assets (Nurazi, Ridwan and Evans, Michael, 2005)	NM
Earnings Ability	Return on Equity (PBI 6/10/PBI/2004)	ROE
	Net Operating Income (PBI 6/10/PBI/2004)	NIM
	Operational Cost to Operational Income (PBI 6/10/PBI/2004)	OCOI
Liquidity	Financing to Deposit Ratio (6/10/PBI/2004)	FDR
	Total Financing to Total Assets (Nurazi, Ridwan and Evans, Michael, 2005)	TFTA

Methodology

In this section, will provide the systematical model to conduct the research.

Data Research

This research using secondary data. Secondary data is gathering data from the existing source that has been process and open to public. The data is gather from central Bank of Indonesia and Financial Services Authorities publication report of balance sheet, income statement and financial ratio calculation. In this research, the author uses quarterly data report audited and determine the research period for ten years (2005- 2015) with unbalance data panel. Unbalance data happen because author trying to take the data from the beginning of the bank establish which is different each of bank establishes. The list of the data are;

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1. Bank Muamalat
2. Bank Mandiri Syariah
3. Bank BNI Shariah
4. Bank BCA Shariah
5. Bank BRI Shariah
6. Bank Danamon Shariah
7. Bank Panin Shariah
8. Maybank Shariah
9. Bank Victoria Shariah
10. Bank BJB Shariah
11. Bank Mega Syariah

Based on hypothesis making, the research model can be develop as:

$$AG = C + \beta1*CAR + \beta2*FAC + \beta3*NPF + \beta4*ROA + \beta5*NM + \beta6*ROE + \beta7*NIM + \beta8*OCOI + \beta9*FDR + \beta10*TFTA + \beta11*ALEA + [CX=F]$$

Statistical Model Analysis

This study divided into two steps. First, the descriptive study to provide the overall summaries of the data. Second, is the regression analysis process using statistical data process conduct with EViews7 with 95% confidence interval and replicate 0.05 of significant level, so the tolerance of the error is 0.05.

Descriptive Statistics

The objective of descriptive statistic is to provide the overall description of the data so; the data can be easy to be understand by people who read the data. Descriptive statistics contain the explanation of means, median, maximum, minimum, standard deviation.

Classical Linear Assumption Test

"The classic assumption test doesn't need to be conducted since panel data analysis has a lot of privileges." (Gujarati, 2006). Wibisono (2005) and Widarjono (2007) argue that classical assumption test not necessary to conducted on panel data regression method since panel data has several benefits that showing bellow;

1) Data Panel produce greater degree of freedom because it was combination from time series and cross section data.
2) Data Panel can overcome removal of variables or omitted- variable problems.
3) Data Panel have ability to taking explicit single account heterogeneity by allowing single specific variable.
4) Panel Data can build more complex behavior model and control the heterogeneity.
5) Because Panel Data is time series cross- section observation based, it fit on dynamic adjustment studies.
6) High data observation on Panel Data makes the data more informative and diverse decreasing collinearity level and higher degree of freedom so the data result can be more efficient.
7) Complex behavior study was suitable to using Panel Data.
8) Aggregation of individual data that causing bias can be minimize with Panel Data.

This eight benefit of Panel Data make the author decide not to conduct classical assumption test.

Regression Analysis

Based on Brooks (2008), regression analysis is concerned with describing and evaluating the relationship between a given variable and one or more other variable. On the other word, regression try to explain movements in a variable by reference to movements in one or more other variables. "In many applications the whole point of using panel data is to allow for αi to be arbitrarily correlated with the xit. A fixed effects analysis achieves this purpose explicity." (Wooldridge, 2010:300)

Therefore, this research will using fixed effect method since the data in panel.

a) Coefficient of determination

The coefficient of determination is define as r2 used to measure the suitability of the regression model and determine the contribution of independent variable to relation the dependent variable by looking when the value of r2 is between zero and one. When the values of r2 value close to one, the better of the independent variable determine the dependent variable. On the contrary, when the values of r2 value close to zero, It is indicates the independent variable less determine the dependent variable.

b) T- Test (Partial Test)

T- Test indicates the significance level of independent variables to the hypothesis and significance level towards the dependent variable by observing at how close the p- value is to zero. If p- value < significant level, there is significant relation between the single independent variable due to the dependent variable. If p- value> significant level, there is no significant relation between single independent variable due to the dependent variable. This research using 0.05 degree of significance

and to determine whether the CAR, FAC, NPF, ALEA, ROA, NM, ROE, NIM, FDR, OCOI and TFTA variables partly has significant relationship to Asset Growth or not.

c) F Test (Simultaneous Test)

The F test indicates the significant level of independent variables to dependent variable by controlling other independent variables. The F value of the regression test will compare with F- Table. If F tests score < f table, independent variables has no significant relationship to the dependent variable. If F test score > f table, independent variables have significant relationship to the dependent variable.

DATA ANALYSIS

In this chapter, would be provides with the result of data process and the explanation of determination assets growth in Indonesia toward CAMEL criteria. CAMEL criteria was measured using ratio calculation then, data was process to descriptive statistics and the last processing multilinear regression to determine which CAMELS criteria that determine sharia bank assets growth and make conclusion.

Descriptive Statistics

This research conducted test to determine the bank assets growth based on CAMEL criteria which is AG, ALEA, CAR, FAC, LDR, NIM, NM, NPF, OCOI, ROA, ROE and TFTA. The descriptive statistics showing below;

	Observations	Maximum	Minimum	Median	Mean	Std. Dev.
AG	285	39.85	-22.65	4.54	5.76	7.83
ALEA	285	25.73	0.21	1.48	1.85	1.93
CAR	285	245.87	8.30	16.23	30.07	33.50
FAC	285	47.85	0.00	18.33	16.67	9.83
FDR	285	317.43	0.00	36.85	52.05	47.15
NIM	285	16.14	-2.43	6.61	6.68	3.02
NM	285	3.30	-43.14	-1.74	-2.75	5.05
NPF	285	7.32	0.00	1.73	1.93	1.49
OCOI	285	304.60	34.73	86.40	89.92	26.89
ROA	285	18.69	-20.13	1.58	1.76	3.84
ROE	285	89.83	-63.72	7.99	15.16	20.93
TFTA	285	69.35	0.00	21.17	20.89	14.07

Panel Data Analysis: Regression.

Sharia bank in Indonesia has been establish in many years and the data collected are not same in time period, the data of the research categorized as unbalance panel data since it contain certain years in certain category.

The regression result;

Dependent Variable: AG
Method: Panel Least Squares
Date: 08/25/16 Time: 10:49
Sample: 1 327
Periods included: 37
Cross-sections included: 11
Total panel (unbalanced) observations: 285
White cross-section standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.227421	4.420115	-0.277690	0.7815
CAR	0.002681	0.019710	0.135997	0.8919
FAC	0.039377	0.059542	0.661337	0.5090
NPF	-0.958537	0.380016	-2.522362	0.0122
ROA	0.515169	0.242152	2.127465	0.0343
NM	-0.096143	0.080158	-1.199424	0.2314
ROE	-0.038803	0.026827	-1.446448	0.1492
NIM	0.036412	0.144574	0.251859	0.8013
OCOI	0.031611	0.033238	0.951054	0.3424
FDR	0.021025	0.015347	1.370041	0.1718
TFTA	0.178866	0.039182	4.565014	0.0000
ALEA	-0.214757	0.343361	-0.625456	0.5322

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.156219	Mean dependent var	5.763158
Adjusted R-squared	0.122220	S.D. dependent var	7.831911
S.E. of regression	7.337710	Akaike info criterion	6.865124
Sum squared resid	14698.86	Schwarz criterion	7.018913
Log likelihood	-966.2801	Hannan-Quinn criter.	6.926774
F-statistic	4.594868	Durbin-Watson stat	1.802386
Prob(F-statistic)	0.000002		

AG = -1.2274 + 0.00268*CAR + 0.03938*FAC - 0.958537*NPF + 0.515169*ROA - 0.09615*NM - 0.038803*ROE + 0.03641*NIM + 0.031611*OCOI + 0.021025*FDR + 0.17886*TFTA - 0.214757*ALEA + [CX=F]

Coefficient Determination

The result of regression estimation in eleven dependent variable shows value of r^2 is 0.152580. It means that the independent variable, which are CAR, FAC, NPF, ROA, NM, ROE, NIM, OCOI, FDR, TFTA, and ALEA, can explain 15.62% of the AG as dependent variable where the 84.38% explains by the other variables.

F Test

Determine the simultaneous test by looking F statistics compare to F Table shows that F statistics is 4.59487 exceed F Table (0.05, 285,11) 2.422996 indicate that there is significant relation of independent variable toward dependent variable.

T Test

Determine the partial test by comparing the p- value toward the significant level at 0.05. The, ROA and TFTA have positive and significant relationship to Asset Growth while NPF have negative significant relationship to Asset Growth. The other variable; CAR, FAC, NM, ROE, NIM, FDR, OCOI and ALEA did not have significant relationship to Asset Growth.

Conclusion

The result of regression estimation in eleven dependent variable shows that the independent variable, which are CAR, FAC, NPF, ROA, NM, ROE, NIM, OCOI, FDR, TFTA, and ALEA, can explain 15.62% of the AG as dependent variable where the 84.38% explains by the other variables. The result for the F statistics indicates that there is significant relation of independent variable toward dependent variable. Independent variable ROA and TFTA have positive and significant relationship to Asset Growth while NPF has negative significant relationship to Asset Growth. While another variable; CAR, FAC, NM, ROE, NIM, FDR, OCOI and ALEA did not have significant relationship to Asset Growth.

According to this result study, CAMEL criteria that relevant to asset growth is relates with asset quality, management and bank liquidity since they have significant value due to regression analysis. Since CAMEL are one of criteria to determine bank's health as ruled by the regulator, some of indicators were proven to be significantly increase bank assets growth. Although CAMEL itself is not a tool to determine assets growth, this three bank financial ratio can be use by bank consideration to build the bank strategy to increase their assets growth.

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